

WHAT IS CLAIMED IS:

1. A write driver for an inductive head element in a disk drive system, said driver comprising:

an H-bridge circuit capable of driving a first current through said head element;

5 a boost circuit coupled with said H-bridge and operable for delivering a second current during a time period to said head element responsive to a control signal, wherein a sum of said first current and said second current provides the write current for said head element; and

10 a resistive element selectively coupled with said head element for providing impedance matching for said head element, said resistive element is decoupled from said head element during said second current time period.

2. The write driver of Claim 1, wherein said resistive element is selectively coupled between said head element and a ground reference during periods of said first current and decoupled from said head element during periods of said second current time period.

3. The write driver of Claim 1, wherein said resistive element comprises a series coupled resistor and switch, said switch coupled between said resistor and said head element, wherein said switch is open during said second current time period.

4. The write driver of Claim 3 further including a control device operatively coupled to said switch for opening said switch responsive to said boost circuit control signal.

5 5. The write driver of Claim 4 further including a timer device coupled with said switch and operable for closing said switch following a predetermined time period subsequent to said control signal

6. The write driver of Claim 1, wherein said control device is an OR gate.

10 7. The write driver of Claim 1, wherein said resistive element is integral with said boost circuit and comprises an inverter, a capacitor, and a resistor coupled in series to said head element, said control signal is provided to said inverter for inverting said signal and providing a pulse corresponding to inverted signal to said head element via said capacitor.

15 8. The write driver of Claim 1, wherein said boost circuit includes a first circuit for providing current in a first direction through said head element and a second circuit for providing current in a second direction through said head element, each of said first circuit and said second circuit are responsive to a respective control signal.

9. The write driver of Claim 8, wherein each of said first circuit and said second circuit includes respective resistive elements.

5 10. The write driver of Claim 9, wherein said resistive element is selectively decoupled from said head element during periods of said second current time period or during the period it takes for the reflection from the head to come back.

10 11. The write driver of Claim 9, wherein said resistive element is selectively decoupled from said head element during period taken for the reflection to come back from the write head.

12. A hard disk drive system comprising:

a magnetic storage media;

a inductive head associated with said magnetic storage media for magnetizing small regions thereon responsive to a temporary magnetic field created via drive signal through said inductive head;

a first current driver coupled with said inductive head and operable for providing a first current in either of two directions through said inductive head;

a second current driver coupled with said inductive head and operable for providing a second current in either of said two directions, wherein said first current and said second current are coordinated to provide said drive signal in substantially equal magnitudes of opposite polarities;

a resistive element operable to be selectively coupled with said inductive head for providing impedance matching during selected time periods of said drive signal.

13. The hard disk drive system of Claim 12 further including a control unit coupled with said first current driver and said second current driver for effecting complementary coordination of said drive signal.

14. The hard disk drive system of Claim 12, wherein a sum of said first current and said second current defines said drive signal.

15. The hard disk drive system of Claim 12, wherein said second current is provided during a time period immediately following a switch in polarity of said drive signal.

5 16. The hard disk drive system of Claim 12, wherein said resistive element is coupled between said head element and a ground reference except during periods said second current is provided or during the period it takes for the reflection from the head to come back.

10 17. The hard disk drive system of Claim 12, wherein said resistive element comprises a series coupled resistor and switch, said switch is coupled between said resistor and said inductive head, wherein said switch is open during said periods said second current is provided.

15 18. The hard disk drive system of Claim 17 further including a control device operatively coupled to said switch for opening said switch during said periods said second current is provided.

20 19. The hard disk drive system of Claim 18, wherein said control device is an OR gate.

20. The hard disk drive system of Claim 17 further including a timer device coupled with said switch and operable for closing said switch following a predetermined time period subsequent to said control signal.

5 21. The hard disk drive system of Claim 12, wherein said resistive element is integral with said second current driver and comprises an inverter, a capacitor, and a resistor coupled in series to said inductive head.

10 22. The hard disk drive system of Claim 21, wherein the supply to the inverter can be set to produce voltage into the inductive head greater than the preamp power supply voltage.